

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-7 are pending in the application. Claims 1-5 and 7 are amended by the present amendment. Support for the amended claims can be found in the original specification, claims and drawings.¹ Thus, no new matter is presented.

In the outstanding Official Action, Claims 1-7 were rejected under 35 U.S.C. § 112, first paragraph; Claims 1, 2, 6 and 7 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent Publication No. 2002/0106989 to Aizawa et al. (hereinafter "Aizawa"); Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Aizawa further in view of U.S. Patent Publication No. 2003/0119452 to Kim et al. (hereinafter "Kim"); Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Aizawa and further in view of U.S. Patent Publication No. 2004/0203476 to Liu; and Claims 1, 2 and 7 were objected to for informalities.

Claims 1-7 were rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. The Official Action specifically cites the phrases "the number of multiple codes," and "to manage a situation of a radio resource" as unclear and not sufficiently described in the specification.

In response, Claims 1, 2 and 7 are amended to remove the reference to "the number of multiple codes." Also, Claim 5 is amended to recite a radio resource manager configured to "manage *radio resources of the radio station*," to clarify that the manager manages resources (e.g., number of channels, transmission power, number of transmission signal repetitions, etc.) available at the radio station, as described at p. 24, line 29-p. 25, line 5 of the specification.

¹ e.g., specification, original independent Claims 1, 2 and 7.

Accordingly, Applicants respectfully request that the rejection of Claims 1-7 under 35 U.S.C. § 112, first paragraph, be withdrawn.

Further, Claims 1, 2 and 7 were objected to because of minor informalities. In response, Claims 1, 2 and 7 are amended to clearly recite that the system is configured to “determine a number of transmission signal repetitions by the multicast communication, in accordance with the acquired communication quality.” As discussed in an exemplary embodiment at p. 23 of the specification, the transmission method changing unit uses a detected communications quality to determine a number of transmission signal repetitions. Thus, independent Claims 1, 2 and 7 are believed to clearly recite this claimed feature.

Accordingly, Applicants respectfully request that the objection to Claims 1, 2 and 7 be withdrawn.

Claims 1, 2, 6 and 7 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Aizawa. Applicants respectfully submit that amended independent Claims 1, 2 and 7 recite novel features not taught or rendered obvious by the applied references.

Amended independent Claim 1 relates to a system for improving communications performance in a multicast communications environment. Specifically, independent Claim 1 recites, in part, a mobile communication system, wherein

the radio station comprises:
a communication quality acquirer configured to acquire the communication quality from each of the plurality of mobile stations belonging to the specific multicast group;
a transmission method changer configured to ***determine a number of transmission signal repetitions by the multicast communication, in accordance with the acquired communication quality...***

Independent Claims 2 and 7, while directed to alternative embodiments, recite substantially similar features. Accordingly, the arguments presented below are applicable to each of independent Claims 1, 2 and 7.

Turning to the applied reference, Aizawa describes a method and system for performing coding rate control in unicast communication between a radio station and a mobile station. Specifically, “Embodiment 7” of Aizawa describes that in unicast communication between a radio communication apparatus 700 (i.e., radio station) and a radio communication apparatus 750 (i.e., mobile station), the radio communication apparatus 700 determines the coding rate of a signal that is transmitted to the radio communication apparatus 750 based on a communication quality between the devices (see paragraphs 0161-0171 and Fig. 11 of Aizawa).

Aizawa, however, fails to teach or suggest a method of determining a transmission method in a multicast communication. Further, Aizawa fails to teach or suggest ***“determining a number of transmission signal repetitions by the multicast communication, in accordance with the acquired communication quality,”*** as recited in amended independent Claim 1.

It should be noted that transmission signal repetitions is typically carried out in multicast communication but not unicast communications, so that some mobile stations, which could not receive successfully the signals by the multicast communication, could receive the unsuccessfully received signals without requiring to the radio station to retransmit the unsuccessfully received signals.

Therefore, the determination of the number of transmission signal repetitions is carried out only by the multicast communication and is not carried out by the unicast communication in which the mobile station requires the radio station to retransmit the unsuccessfully received signals. Thus, the determination of the number of transmission signal repetition is peculiar to the multicast communication.

Therefore, Aizawa fails to teach or suggest ***“determining a number of transmission signal repetitions by the multicast communication, in accordance with the acquired***

communication quality,” as recited in amended independent Claim 1. Accordingly, Applicants respectfully request that the rejection of Claims 1, 2, 6 and 7 under 35 U.S.C. § 102 be withdrawn.

Claim 4 was rejected under 35 U.S.C. § 103(a) as unpatentable over Aizawa and further in view of Liu. With regard to this rejection, it is noted that Claim 4 depends from independent Claim 1, and is believed to be patentable for at least the reasons discussed above. Further, as next discussed, it is respectfully submitted that Liu fails to teach or suggest the features of dependent Claim 4 for which it is asserted.

As admitted in the Official Action, Aizawa fails to disclose “calculating an average value of the communication qualities acquired from the plurality of mobile stations.” In an attempt to remedy this deficiency, the Official Action cites Liu and states that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the cited references to arrive at Applicant’s claimed feature.

Liu, however, fails to teach or suggest “***calculating an average value of the communication qualities acquired from the plurality of mobile stations***,” as recited in dependent Claim 4.

In addressing this claimed feature, the Official Action cites paragraphs [0018] and [0015] of Liu. The cited portions of Liu, however, describe a method of calculating average channel quality information (CQI) for a single wireless unit, not a plurality of wireless units, as claimed. Specifically, Liu describes that one wireless unit may receive a number of blocks which are allocated to itself or other users, and that an average CQI is calculated based on each CQI corresponding to each received block.

Therefore, Liu describes calculating an average CQI at one wireless unit for each of a plurality of received blocks, but fails to teach or suggest calculating an average value of the

communication qualities acquired from *the plurality of mobile stations*, as recited in amended independent Claims 1, 2 and 7.

Accordingly, Applicants respectfully request that the rejection of Claim 4 under 35 U.S.C. § 103 be withdrawn.

With regard to the rejection of Claim 3 under 35 U.S.C. § 103 as unpatentable over Aizawa and Kim, it is noted that Claim 3 depends from independent Claim 1, and is believed to be patentable for at least the reasons discussed above. Further, as next discussed, it is respectfully submitted that Kim does not cure the above noted deficiencies of Aizawa.

Kim describes a transmission power control in multicast communication by a radio station and a plurality of mobile stations. Specifically, Kim describes that in multicast communication by a base station (i.e., radio station) and a plurality of mobile stations, the base station determines the transmission power, which is transmitted to the plurality of mobile stations by multicast communication, in accordance with the communication quality acquired from the plurality of mobile stations (see Abstract, paragraphs 0010 and 0014, etc. of Kim).

Kim, however, only teaches determining the transmission power, and fails to teach or suggest “*determining a number of transmission signal repetitions by the multicast communication, in accordance with the acquired communication quality*,” as recited in amended independent Claim 1.

Accordingly, Applicants respectfully request that the rejection of Claim 3 under 35 U.S.C. § 103 be withdrawn.

Application No. 10/678,107

Reply to Office Action of November 28, 2006

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 1-7 is definite and patentably distinguishing over the applied references. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of the application is therefore requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Bradley D. Lytle
Registration No. 40,073

Customer Number

22850

Tel: (703) 413-3000

Fax: (703) 413 -2220

(OSMMN 06/04)

Andrew T. Harry
Registration No. 56,959

I:\ATTYATH\PROSECUTION\24'S\243563US\243563US-AMDDUE32807.DOC